

ABSTRACT OF DISCLOSURE

The invention specifies a method of allocating resources efficiently for network capacity management of voice traffic in a packet based broadband network. The method includes the specifications of the logical network architecture, its components, the information model associated with the components, and the computation algorithms for network capacity management. The invention is independent of the transport network technologies.

The logical network architecture has a tree topology structure. The method of this invention groups voice traffic flows into aggregate flows segment by segment. Statistical multiplexing techniques such as the Erlang formula can be used to efficiently allocate resources to each aggregate segment. A rule for consistent assignment of the blocking probabilities for the aggregate segments is specified. The method identifies the necessary information that should be defined for each aggregate segment. The method also specifies computation algorithms to compute a number of parameters for each segment, including but not limited to:

- equivalent bandwidth required
- blocking probability
- number of telephones supported

The method also specifies useful reports and alarm indications that can be generated to aid network operators in their network capacity management functions.

A new feature for voice switches, hierarchical call blocking is also specified. With this feature, high concentration can be achieved without the possibility of overloading.